



Technical Consultation, Data Analysis and  
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Maya Golden-Krasner  
Center for Biological Diversity  
1212 Broadway, Suite 800  
Oakland, CA 94612

**Subject: Comments on the Arroyo Grande Aquifer Exemption Response to Comments**

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Dear Ms. Golden-Krasner:

I have reviewed the Arroyo Grande Aquifer Exemption Request, Public Comment Summaries and Responses ("Responses") prepared by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). The Responses were prepared by DOGGR to address comments made on the December 2, 2015 Arroyo Grande Aquifer Statement of Basis. The Responses fundamentally fail to address concerns I raised on the locations of drinking water wells and the effectiveness of the hydraulic boundaries to isolate the exempted area from the aquifer that is tapped by wells for drinking water.

DOGGR has yet to present maps and cross-sections that would accurately depict the locations of drinking water wells vis-a-vis the area proposed for exemption. The fact that no maps have been prepared for public review indicates that not even DOGGR knows where the wells are, both aerially and vertically, in relation to the exempted area. Until these vital maps are prepared, DOGGR cannot substantiate the claim that "there are no water supply wells located in the existing exempted area and no wells exist in the proposed area of expansion" (response 0001-10).

Another essential element that is missing are any studies, based on aquifer tests and numeric groundwater models, to demonstrate the proposed exempted area is hydraulically isolated from the aquifer used for drinking water. The claim that boundary conditions create an impermeable hydraulic barrier that would preclude the intercommunication of drinking water aquifers with oil field activities is unsubstantiated by any physical tests or computer simulations.

Comments that I made stressing these two points were ignored. No specific response was provided to address these concerns. For example, in response 0001-17, DOGGR states, in addressing my request for a numeric groundwater model:

The State has conducted a comprehensive review and the demonstration for the case for an exemption has been met. The final decision will be made by the US EPA.

In response to the comment on the need for a map and for cross-sections showing accurate drinking water well locations, response 0001-10 states:

Data supporting the proposed aquifer exemption includes a map indicating the location of the nearest water supply wells (see Statement of Basis).

This response fails to grasp that the very map I was critiquing, as not providing accurate well location information, was the map in the Statement of Basis. As stated in my comment, the Statement of Basis map (Figure 1) only provides locations in a very general sense, using a scale that does not allow for accurate location and dots that are gradational in scale to only schematically identify the location of the 105 wells that lie within the one-mile radius of the Project.

Approval of the Application be withheld until fundamental information on drinking water wells, including locations and cross sectional correlations to injection wells and pumping wells are presented. Additionally, boundary conditions need to be defined through aquifer tests and numerical simulations to evaluate if the oil field is isolated from groundwater used for drinking water.

Sincerely,



Matt Hagemann, P.G., C.Hg.